WEST Search History

DATE: Thursday, March 20, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB; PLUR=YES; OP=OR			
L17	L16 and l15	10	L17
L16	@PY <= 2000	13992387	L16
L15	L14 and "reaction mixture"	155	L15
L14	L13 and feed$	197	L14
L13	L12 and (translation or transcription)	301	L13
L12	L11 and continuous$	310	L12
L11	L10 and (atp or gtp or utp or ctp)	342	L11
L10	L9 and (Mg or magnesium or k or potassium or ntp)	539	L10
L9	L8 and porous	563	L9
L8	(lysate or "cell extract") and (cell-free or "cell free")	6418	L8
L7	SHIROKOV.in.	11	L7
L6	SIMONENKO.in.	9	L6
L5	BIRYUKOV.in.	4	L5
DB=USPT; PLUR=YES; OP=OR			
L4	L3 and (molecular weight)	1	L4
L3	L2 and (atp or gtp or utp or ctp)	1	L3
L2	L1 and ("cell extract" or "cell lysate")	1	L2
L1	5434079.pn. and (transcription or translation)	1	L1

END OF SEARCH HISTORY

Connecting via Winsock to Dialog

Logging in to Dialog

Trying 31060000009999...Open

DIALOG INFORMATION SERVICES
PLEASE LOGON:
****
ENTER PASSWORD:
****
Welcome to DIALOG

Dialog level 02.12.60D

Last logoff: 20mar03 10:22:39
Logon file405 20mar03 14:55:43
** Preliminary records through 2/12 **
SYSTEM:HOME
Cost is in DialUnits
Menu System II: D2 version 1.7.8 term=ASCII
*** DIALOG HOMEBASE(SM) Main Menu ***

Information:
1. Announcements (new files, reloads, etc.)
2. Database, Rates, & Command Descriptions
3. Help in Choosing Databases for Your Topic
4. Customer Services (telephone assistance, training, seminars, etc.)
5. Product Descriptions

Connections:
6. DIALOG(R) Document Delivery
7. Data Star(R)

/H = Help /L = Logoff /NOMENU = Command Mode

Enter an option number to view information or to connect to an online
service. Enter a BEGIN command plus a file number to search a database
(e.g., B1 for ERIC).
? b 410

20mar03 14:55:44 User268147 Session D54.1
$0.00 0.149 DialUnits FileHomeBase
$0.00 Estimated cost FileHomeBase
$0.00 Estimated cost this search
$0.00 Estimated total session cost 0.149 DialUnits

File 410:Chronolog(R) 1981-2003/Mar
(c) 2003 The Dialog Corporation

Set Items Description
--- ----- -----------
? set hi %%%;set hi %%%
HILIGHT set on as "
HILIGHT set on as "
? b 5, 3471, 76
>>>File number 3471 is invalid. (Files are numbered between 1 and 1999)

? b 5, 34, 71, 76
>>> 76 does not exist
>>>1 of the specified files is not available
20mar03 14:56:18 User268147 Session D54.2
$0.00 0.153 DialUnits File410
$0.00 Estimated cost File410
$0.13 TELNET
$0.13 Estimated cost this search
$0.13 Estimated total session cost 0.301 DialUnits

SYSTEM:OS - DIALOG OneSearch
File 5:Biosis Previews(R) 1969-2003/Mar W3
(c) 2003 BIOSIS
*File 5: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.
File 34:SciSearch(R) Cited Ref Sci 1990-2003/Mar W3
(c) 2003 Inst for Sci Info
*File 34: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.
File 71:ELSEVIER BIOBASE 1994-2003/Mar W3
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Set Items Description
--- ----- -----
? s lysate or "cell extract"
16120 LYSATE
35 CELL EXTRACT
S1 16155 LYSATE OR "CELL EXTRACT"
? s transcription or translation
455177 TRANSCRIPTION
97231 TRANSLATION
S2 526902 TRANSCRIPTION OR TRANSLATION
? s "reaction mixture"
S3 102 "REACTION MIXTURE"
? s feed or feeds or feeding
142772 FEED
17911 FEEDS
276700 FEEDING
S4 393150 FEED OR FEEDS OR FEEDING
? s mg or magnesium or k or potassium or mtp
957781 MG
126112 MAGNESIUM
781942 K
310162 POTASSIUM
2015 MTP
S5 1920517 MG OR MAGNESIUM OR K OR POTASSIUM OR MTP
? s atp or gtp or utp or ctp
236312 ATP
81356 GTP
9760 UTP
6976 CTP
S6 314180 ATP OR GTP OR UTP OR CTP
? s pore? or porous
101590 PORE?
76956 POROUS
S7 164393 PORE? OR POROUS
? s cell-free or "cell free"
1506 CELL-FREE
15 CELL FREE
S8 1520 CELL-FREE OR "CELL FREE"
? ds

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Set    Items   Description
S1      16155  LYSATE OR "CELL EXTRACT"
S2     526902  TRANSCRIPTION OR TRANSLATION
S3        102  "REACTION MIXTURE"
S4     393150  FEED OR FEEDS OR FEEDING
S5    1920517  MG OR MAGNESIUM OR K OR POTASSIUM OR MTP
S6     314180  ATP OR GTP OR UTP OR CTP
S7     164393  PORE? OR POROUS
S8       1520  CELL-FREE OR "CELL FREE"
? s s1 and s2 and s4 and s5 and s6 and s7 and s8
        16155  S1
       526902  S2
       393150  S4
      1920517  S5
       314180  S6
       164393  S7
         1520  S8
    S9      0  S1 AND S2 AND S4 AND S5 AND S6 AND S7 AND S8
? s s1 and s2 and s8
        16155  S1
       526902  S2
         1520  S8
   S10     54  S1 AND S2 AND S8
? s s10 and s3
           54  S10
          102  S3
   S11      0  S10 AND S3
? s s10 and s4
           54  S10
       393150  S4
   S12      0  S10 AND S4
? s s10 and s5
           54  S10
      1920517  S5
   S13     10  S10 AND S5
? type s13/full/all

 13/9/1     (Item 1 from file: 34)
DIALOG(R)File  34:SciSearch(R) Cited Ref Sci
(c) 2003 Inst for Sci Info. All rts. reserv.

10099938  Genuine Article#: 486CJ  Number of References: 26
Title: A new reporter gene system suited for cell-free protein synthesis
   and high-throughput screening in small reaction volumes
Author(s): Hempel R; Wirsching F; Schober A; Schwienhorst A  (REPRINT)
Corporate Source: Inst Mikrobiol & Genet,Abt Mol Genet & Praeparat Mol
   Biol,Grisebachstr 8/D-37077 Gottingen//Germany/ (REPRINT); Inst
   Mikrobiol & Genet,Abt Mol Genet & Praeparat Mol Biol,D-37077
   Gottingen//Germany/; Inst Phys Hochtechnol,D-07743 Jena//Germany/
Journal: ANALYTICAL BIOCHEMISTRY, 2001, V297, N2 (OCT 15), P177-182
ISSN: 0003-2697  Publication date: 20011015
Publisher: ACADEMIC PRESS INC, 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495
   USA
Language: English  Document Type: ARTICLE
Geographic Location: Germany
Journal Subject Category: BIOCHEMICAL RESEARCH METHODS; BIOCHEMISTRY &
   MOLECULAR BIOLOGY; CHEMISTRY, ANALYTICAL
Abstract: The properties of M-hirudin as a new reporter gene system were
   examined using rabbit reticulocyte lysate for cell-free protein
   expression. In contrast to the luciferase gene, in vitro
   translation of M-hirudin is highly robust against changes in
   concentrations of K+ (and Rb+). In addition, M-hirudin can be
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detected very sensitively using a reasonably priced fluorimetric thrombin assay. To show that the new reporter gene system is well suited for (u)HTS-applications, cell-free synthesis as well as the fluorimetric assay of M-hirudin were carried out in nanotiter and microtiter plates, respectively. (C) 2001 Academic Press.
Descriptors--Author Keywords: in vitro translation ; hirudin ; luciferase reporter gene ; cation concentration
Identifiers--KeyWord Plus(R): HEPATITIS-C VIRUS; N-TERMINAL REGION; HIRUDIN; EXPRESSION; THROMBIN; CLONING; LEECH; INHIBITORS; DNA
Cited References:
ALAM J, 1990, V188, P245, ANAL BIOCHEM
BEERHEIDE W, 1999, V91, P1211, J NATL CANCER I
BERGMANN C, 1968, V367, P731, BIOL CHEM HOPPESEYLE
BETZ A, 1992, V31, P4557, BIOCHEMISTRY-US
BROWNDRIVER V, 1999, V9, P145, ANTISENSE NUCLEIC A
CHEN C, 1987, V7, P2745, MOL CELL BIOL
DOI N, 1998, V54, P394, CELL MOL LIFE SCI
FORTKAMP E, 1986, V5, P511, DNA-J MOLEC CELL BIO
GISH RG, 1999, V13, P57, CAN J GASTROENTEROL
GROSKREUTZ D, 1997, V63, P11, METH MOL B
HARVEY RP, 1986, V83, P1084, P NATL ACAD SCI USA
HEMPEL R, 2001, V283, P267, BIOCHEM BIOPH RES CO
KOHLER JM, 1994, V40, P35, EXP TECH PHYS
LOISON G, 1988, V6, P72, BIOTECHNOLOGY
PUTZ J, 1997, V25, P1862, NUCLEIC ACIDS RES
REID BG, 1997, V36, P6786, BIOCHEMISTRY-US
SCHENBORN E, 1999, V13, P29, MOL BIOTECHNOL
SCHLICK JL, 2000, V472, P241, FEBS LETT
SCHOBER A, 1995, V1, P168, MICROSYSTEMS TECHNOL
SILVERMAN L, 1998, V2, P397, CURR OPIN CHEM BIOL
SZEWCZUK Z, 1992, V31, P9132, BIOCHEMISTRY-US
TONJES RR, 1999, V73, P9187, J VIROL
WALKER MA, 1999, V4, P518, DRUG DISCOV TODAY
WALLACE A, 1989, V28, P10079, BIOCHEMISTRY-US
WIRSCHING F, 1997, V204, P177, GENE
WYNSHAWBORIS A, 1986, V4, P104, BIOTECHNIQUES

13/9/2 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

09640297 Genuine Article#: 431BU Number of References: 22
Title: Cation radius effects on cell-free translation in rabbit reticulocyte lysate
Author(s): Hempel R; Schmidt-Brauns J; Gebinoga M; Wirsching F; Schwienhorst A (REPRINT)
Corporate Source: Inst Mikrobiol & Genet,Abt Mol Genet & Praeparat Mol Biol,Grisebachstr 8/D-37077 Goettingen//Germany/ (REPRINT); Inst Mikrobiol & Genet,Abt Mol Genet & Praeparat Mol Biol,D-37077 Goettingen//Germany/; Univ Wurzburg,Zentrum Infekt Forsch,D-97070 Wuerzburg//Germany/; Novel Sci GmbH,D-37073 Goettingen//Germany/
Journal: BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, 2001, V283, N2 (MAY 4), P267-272
ISSN: 0006-291X Publication date: 20010504
Publisher: ACADEMIC PRESS INC, 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495 USA
Language: English Document Type: ARTICLE
Geographic Location: Germany
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS
Abstract: The effect of monovalent cation concentrations on the translation was examined in the rabbit reticulocyte cell-free

system. The translation of standard reporter gene luciferase was studied using different concentrations of LiCl, NaCl, KCl, RbCl, CsCl, NH4Cl, and (CH3)(4)NCl and the acetates of Na+, K+, and NH4+. Only the salts of K+, Rb+, and NH4+ and to some minor extent of Os' significantly supported translation. Optimum concentrations were dependent on the cation used. Optimum concentrations ranged between 40 mM (NH4Ac), 80 mM (KCl, NH4Cl), and 100 mM (RbCl, KAc). The maximum efficiency of translation depends on the ionic radius of the cation used, KCl and RbCl were superior to all other salts tested in stimulating in vitro translation. The results were confirmed, using a second reporter system, M-hirudin. Here, however, broad optima were observed with RbCl being slightly superior to KCl in supporting translation. (C) 2001 Academic Press.

Descriptors--Author Keywords: in vitro translation ; hirudin ; luciferase reporter gene ; cation concentration

Identifiers--KeyWord Plus(R): PROTEIN-SYNTHESIS; INHIBITION; INITIATION; FIDELITY

Cited References:

CAHN F, 1978, V253, P7798, J BIOL CHEM
COLLINS KD, 1995, V92, P5553, P NATL ACAD SCI USA
HEMPEL R, 2001, UNPUB NEW REPORTER G
HULTIN T, 1962, V61, P916, BIOCH BIOPHYS ACT
HULTIN T, 1966, V123, P561, BIOCHIM BIOPHYS ACTA
HULTIN T, 1974, V8, P315, CHEM-BIOL INTERACT
JACKSON RJ, 1991, V1088, P345, BIOCHIM BIOPHYS ACTA
KOZAK M, 1990, V18, P2828, NUCLEIC ACIDS RES
LABUDA D, 1977, V79, P303, EUR J BIOCHEM
NASLUND PH, 1970, V204, P237, BIOCHIM BIOPHYS ACTA
PELHAM HRB, 1976, V67, P247, EUR J BIOCHEM
PESTKA S, 1972, V247, P4258, J BIOL CHEM
PUTZ J, 1997, V25, P1862, NUCLEIC ACIDS RES
RANU SR, 1981, V102, P30, BIOCHEM BIOPH RES CO
REBOUD AM, 1972, V26, P354, EUR J BIOCHEM
SACHS H, 1957, V228, P23, J BIOL CHEM
SHINOHARA T, 1980, V210, P914, SCIENCE
SILBERNAGEL S, 1992, TASCHENATLAS PHYSL
TSURUMI T, 1983, V27, P519, MICROBIOL IMMUNOL
VILLAKOMAROFF L, 1974, V30, P709, METHOD ENZYMOL
WEBER LA, 1977, V252, P4007, J BIOL CHEM
WIRSCHING F, 1997, V204, P177, GENE

13/9/3 (Item 3 from file: 34)

08371024 Genuine Article#: 277ZJ Number of References: 31

Title: Ribonuclease, cell-free translation-inhibitory and superoxide radical scavenging activities of the iron-binding protein lactoferrin from bovine milk

Author(s): Ye XY; Wang HX; Liu F; Ng TB (REPRINT)
Corporate Source: CHINESE UNIV HONG KONG,FAC MED, DEPT BIOCHEM/SHATIN/NEW TERRITORIES/HONG KONG/ (REPRINT); CHINESE UNIV HONG KONG,FAC MED, DEPT BIOCHEM/SHATIN/NEW TERRITORIES/HONG KONG/; CHINA AGR UNIV,DEPT MICROBIOL/BEIJING//PEOPLES R CHINA/; NANKAI UNIV,DEPT MICROBIOL/TIANJIN 300071//PEOPLES R CHINA/

Journal: INTERNATIONAL JOURNAL OF BIOCHEMISTRY & CELL BIOLOGY, 2000, V32, N2 (FEB), P235-241
ISSN: 1357-2725 Publication date: 20000200
Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND
Language: English Document Type: ARTICLE

Geographic Location: HONG KONG; PEOPLES R CHINA
Subfile: CC LIFE--Current Contents, Life Sciences
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; CELL BIOLOGY
Abstract: The purpose of this study was to characterize the ribonuclease (RNase) and cell-free translation-inhibitory activities of lactoferrin isolated from bovine milk. It was found that bovine lactoferrin exhibited ribonucleolytic activity toward yeast transfer RNA in a dose-dependent manner. The pH optimum for this RNase activity was in the vicinity of 7.5. Lactoferrin exerted RNase activity on poly C with an;activity of 2.15U/mg. No activity was detected toward poly A, poly G, and poly U. The milk protein inhibited cell-free translation in rabbit reticulocyte lysate with an IC50 of 9.6 mu M. The protein was devoid of N-glycosidase activity characteristic of ribosome inactivating proteins which also possess RNase and cell-free translation-inhibitory activities. It inhibited superoxide radical formation. (C) 2000 Elsevier Science Ltd. All rights reserved.
Descriptors--Author Keywords: ribonuclease ; superoxide ; lactoferrin
Identifiers--KeyWord Plus(R): PLASMA-LACTOFERRIN; TRANSFERRINS; PLANTS
Cited References:

AISEN P, 1972, V257, P314, BIOCHIM BIOPHYS ACTA
AISEN P, 1989, P241, IRON CARRIERS IRON P
ANTONSEN S, 1993, V53, P133, SCAND J CLIN LAB INV
BAKER EN, 1987, V12, P350, TRENDS BIOCHEM SCI
BANCEA N, 1999, 4 INT C LACT
BARBIERI L, 1993, V1154, P237, BIOCHIM BIOPHYS ACTA
BARTHE C, 1989, V181, P185, CLIN CHIM ACTA
BRITIGAN BE, 1994, P143, LACTOFERRIN STRUCTUR
BROCK JH, 1997, P233, LACTOFERRIN INTERACT
BROCK JH, 1985, V2, P183, METALLOPROTEINS
BUCKETT WM, 1997, V18, P302, J ANDROL
DOLBY JM, 1983, V72, P577, ACTA PAEDIATR SCAND
ELLISON RT, 1994, P71, LACTOFERRIN STRUCTUR
ENDO Y, 1987, V262, P5908, J BIOL CHEM
GO TM, 1992, V51, P1347, LIFE SCI
GROVES ML, 1960, V82, P3345, J AM CHEM SOC
KUNITZ M, 1946, V164, P563, J BIOL CHEM
LAM SSL, 1998, V253, P135, BIOCHEM BIOPH RES CO
LIU F, 1997, V60, P763, LIFE SCI
MCGRATH MS, 1989, V86, P2844, P NATL ACAD SCI USA
METZBOUTIGUE MH, 1984, V145, P659, EUR J BIOCHEM
MOCK JWY, 1996, V59, P1855, LIFE SCI
NG TB, 1992, V23, P575, GEN PHARMACOL
PELHAM HRB, 1976, V67, P247, EUR J BIOCHEM
SHAPIRO R, 1987, V84, P2238, P NATL ACAD SCI USA
SORRENTINO S, 1999, V1430, P103, BIOCHIM BIOPHYS ACTA
STRYDOM DJ, 1997, V247, P535, EUR J BIOCHEM
YAMAUCHI K, 1993, V61, P719, INFECT IMMUN
YOSHIDA S, 1991, V74, P1439, J DAIRY SCI
ZHAO XY, 1994, P271, LACTOFERRIN STRUCTUR
ZIMMERMAN SB, 1965, V10, P444, ANAL BIOCHEM

13/9/4 (Item 4 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

08007105 Genuine Article# 235QN Number of References: 59
Title: Cell-free expression and functional reconstitution of homo-oligomeric alpha 7 nicotinic acetylcholine receptors into planar lipid bilayers
Author(s): Lyford LK; Rosenberg RL (REPRINT)

Corporate Source: UNIV N CAROLINA,DEPT PHARMACOL, CB 7365/CHAPEL HILL//NC/27599 (REPRINT); UNIV N CAROLINA,DEPT PHARMACOL/CHAPEL HILL//NC/27599; UNIV N CAROLINA,DEPT CELL & MOL PHYSIOL/CHAPEL HILL//NC/27599
Journal: JOURNAL OF BIOLOGICAL CHEMISTRY, 1999, V274, N36 (SEP 3), P 25675-25681
ISSN: 0021-9258 Publication date: 19990903
Publisher: AMER SOC BIOCHEMISTRY MOLECULAR BIOLOGY INC, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814
Language: English Document Type: ARTICLE
Geographic Location: USA
Subfile: CC LIFE--Current Contents, Life Sciences
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY
Abstract: The alpha 7 nicotinic acetylcholine receptor (nAChR) is a ligand-gated ion channel that modulates neurotransmitter release in the central nervous system. We show here that functional, homo-oligomeric alpha 7 nAChRs can be synthesized in vitro with a rabbit reticulocyte lysate translation system supplemented with endoplasmic reticulum microsomes, reconstituted into planar lipid bilayers, and evaluated using single-channel recording techniques. Because wild-type alpha 7 nAChRs desensitize rapidly, we used a nondesensitizing form of the alpha 7 receptor with mutations in the second transmembrane domain (S2'T and L9'T) to record channel activity in the continuous presence of agonist. Endoglycosidase H treatment of microsomes containing nascent alpha 7 S2'T/L9'T nAChRs indicated that the receptors were glycosylated. A proteinase K protection assay revealed a 36-kDa fragment in the ER lumen, consistent with a large extracellular domain predicted by most topological models, indicating that the protein was folded integrally through the ER membrane. alpha 7 S2'T/L9'T receptors reconstituted into planar lipid bilayers had a unitary conductance of similar to 50 pS, were highly selective for monovalent cations over Cl-, were nonselective between K+ and Na+, and were blocked by alpha-bungarotoxin, This is the first demonstration that a functional ligand-gated ion channel can be synthesized using an in vitro expression system.
Identifiers--KeyWord Plus(R): XENOPUS-OOCYTES; PHARMACOLOGICAL PROPERTIES; ENDOPLASMIC-RETICULUM; SYNAPTIC TRANSMISSION; TORPEDO-CALIFORNICA; CHANNEL DOMAIN; ION CHANNELS; BINDING SITE; SUBUNIT; SUBTYPES
Cited References:
ALBUQUERQUE EX, 1997, V280, P1117, J PHARMACOL EXP THER
ANAND R, 1993, V327, P241, FEBS LETT
ANAND R, 1991, V266, P11192, J BIOL CHEM
ANDERSON DJ, 1981, V78, P5598, P NATL ACAD SCI USA
ARIAS HR, 1997, V25, P133, BRAIN RES REV
AWAYDA MS, 1995, V268, PC1450, AM J PHYSIOL
BARISH ME, 1983, V342, P309, J PHYSIOL-LONDON
BERTRAND D, 1992, V89, P1261, P NATL ACAD SCI USA
BIELEFELDT K, 1994, V475, P241, J PHYSIOL-LONDON
BLOUNT P, 1991, V113, P1125, J CELL BIOL
BULLER AL, 1990, V37, P423, MOL PHARMACOL
CHAVEZ RA, 1991, V266, P15532, J BIOL CHEM
CHEN DN, 1997, V272, P24024, J BIOL CHEM
CHUNG SK, 1991, V253, P560, SCIENCE
COOPER E, 1991, V350, P235, NATURE
COOPER ST, 1997, V68, P2140, J NEUROCHEM
COUTURIER S, 1990, V5, P847, NEURON
DAS RC, 1980, V255, P7933, J BIOL CHEM
FALK MM, 1997, V16, P2703, EMBO J
GELMAN MS, 1995, V270, P15085, J BIOL CHEM
GELMAN MS, 1996, V271, P10709, J BIOL CHEM
GOLDIN AL, 1992, V207, P266, METHOD ENZYMOL
GOPALAKRISHNAN M, 1995, V290, P237, EUR J PHARM-MOLEC PH

GOTTI C, 1993, V13, P453, J RECEPTOR RES
GRAY R, 1996, V383, P713, NATURE
GREEN WN, 1995, V18, P280, TRENDS NEUROSCI
HELEKAR SA, 1994, V12, P179, NEURON
HILLE B, 1992, IONIC CHANNELS EXCIT
HWANG C, 1992, V257, P1496, SCIENCE
KARLIN A, 1995, V15, P1231, NEURON
KASSNER PD, 1997, V33, P968, J NEUROBIOL
KELLER SH, 1996, V271, P22871, J BIOL CHEM
KEYSER KT, 1993, V13, P442, J NEUROSCI
KREIENKAMP HJ, 1995, V14, P635, NEURON
KRUSE M, 1995, V270, P2588, J BIOL CHEM
LAEMMLI UK, 1970, V227, P680, NATURE
MALEY F, 1989, V180, P195, ANAL BIOCHEM
MCGEHEE DS, 1995, V269, P1692, SCIENCE
MERLIE JP, 1983, V34, P747, CELL
MILEDI R, 1971, V233, P599, NATURE
MILLER C, 1989, V2, P1195, NEURON
NODA M, 1982, V299, P793, NATURE
NOWAK MW, 1995, V268, P439, SCIENCE
PAPKE RL, 1993, V41, P509, PROG NEUROBIOL
PAULSON HL, 1991, V113, P1371, J CELL BIOL
PEREZ G, 1994, V66, P1022, BIOPHYS J
RANGWALA F, 1997, V17, P8201, J NEUROSCI
REVAH F, 1991, V353, P846, NATURE
REYNOLDS JA, 1978, V17, P2035, BIOCHEMISTRY-US
ROBINSON RA, 1968, P445, ELECTROLYTE SOLUTION
ROBINSON RA, 1961, V65, P662, J PHYS CHEM-US
ROLE LW, 1996, V16, P1077, NEURON
ROSENBERG RL, 1992, V360, P166, NATURE
SANDS SB, 1993, V65, P2614, BIOPHYS J
SCHOEPFER R, 1990, V5, P35, NEURON
SEGUELA P, 1993, V13, P596, J NEUROSCI
SHTROM SS, 1996, V271, P25506, J BIOL CHEM
STUHMER W, 1992, V207, P319, METHOD ENZYMOL
YU CR, 1998, V509, P651, J PHYSIOL-LONDON

13/9/5 (Item 5 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

06154981 Genuine Article#: XY271 Number of References: 26
Title: Differential resistance to proteinase K digestion of the yeast prion-like (Ure2p) protein synthesized in vitro in wheat germ extract and rabbit reticulocyte lysate cell-free translation systems
Author(s): Komar AA; Lesnik T; Cullin C; Guillemet E; Ehrlich R; Reiss C (REPRINT)
Corporate Source: CNRS,CTR GENET MOL/F-91198 GIF SUR YVETTE//FRANCE/ (REPRINT); CNRS,CTR GENET MOL/F-91198 GIF SUR YVETTE//FRANCE/
Journal: FEBS LETTERS, 1997, V415, N1 (SEP 22), P6-10
ISSN: 0014-5793 Publication date: 19970922
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
Language: English Document Type: ARTICLE
Geographic Location: FRANCE
Subfile: CC LIFE--Current Contents, Life Sciences
Journal Subject Category: BIOPHYSICS; BIOCHEMISTRY & MOLECULAR BIOLOGY
Abstract: The Ure2p yeast prion-like protein was translated in vitro in the presence of labeled [S-35]methionine in either rabbit reticulocyte lysate (RRL) or wheat germ extract (WGE) cell-free systems. When subjected to proteinase K digestion, the Ure2p protein

synthesized in WGE was proteolysed much more slowly compared to that synthesized in RRL: this displays fragments of about 31-34 kDa, persisting over 8 min. Thus, the digestion rate and pattern of the protein synthesized in WGE, unlike that synthesized in RRL, revealed characteristic features of the [URE3] prion-like isoform of the Ure2p protein [Masison, D.C. and Wickner, R.B. (1995) Science 270, 93-95]. Chloramphenicol acetyltransferase, synthesized under the same conditions, differed fundamentally in its proteolytic sensitivity toward proteinase K (PK); in the RRL system it was more slowly digested than in WGE, proving specific PK inhibitors to be absent in both systems. Posttranslational addition of the WGE to the RRL-synthesized Ure2p does not protect Ure2p from efficient PK degradation either. The differences in Ure2p degradation may be ascribed to a specific structure or specific states of association of Ure2p synthesized in WGE; obviously, they yield a protein that mimics the behavior of the Ure2p in [URE3] yeast strains. The present data suggest that particular conditions of the Ure2p protein translation and/or certain cellular components (accessory proteins and extrinsic factors), as well as the nature of the translation process itself, could affect the intracellular folding pathway of Ure2p leading to the de novo formation of the prion [URE3] isoform. (C) 1997 Federation of European Biochemical Societies.

Descriptors--Author Keywords: yeast prion ; Ure2p ; [URE3] ; in vitro translation ; folding ; protease resistance ; prion origin

Identifiers--KeyWord Plus(R): SACCHAROMYCES-CEREVISIAE; ASPARTATE-AMINOTRANSFERASE

Cited References:

BOLTON DC, 1982, V218, P1309, SCIENCE
BOSSERS A, 1997, V94, P4931, P NATL ACAD SCI USA
CHERNOFF YO, 1995, V268, P880, SCIENCE
COURCHESNE WE, 1988, V170, P708, J BACTERIOL
COURCHESNE WE, 1991, V11, P822, MOL CELL BIOL
DAUGHERTY JR, 1993, V175, P64, J BACTERIOL
DIRINGER H, 1983, V306, P476, NATURE
DRILLIEN R, 1972, V109, P203, J BACTERIOL
GLOVER JR, 1997, V89, P811, CELL
GUREVICH VV, 1991, V195, P207, ANAL BIOCHEM
HARRISON PM, 1997, V7, P53, CURR OPIN STRUC BIOL
HORNEMANN S, 1997, V413, P277, FEBS LETT
KOCISKO DA, 1995, V370, P471, NATURE
LACROUTE F, 1971, V106, P519, J BACTERIOL
LAIN B, 1994, V269, P15588, J BIOL CHEM
LOPEZ CD, 1990, V248, P226, SCIENCE
MAGASANIK B, 1992, V2, P283, MOL CELLULAR BIOL YE
MANIATIS T, 1982, MOL CLONING
MASISON DC, 1995, V270, P93, SCIENCE
MATTINGLY JR, 1993, V268, P26320, J BIOL CHEM
PRUSINER SB, 1996, V21, P482, TRENDS BIOCHEM SCI
RIEK R, 1997, V413, P282, FEBS LETT
SCHAGGER H, 1987, V166, P368, ANAL BIOCHEM
SMITH PK, 1985, V150, P76, ANAL BIOCHEM
WICKNER RB, 1996, V30, P109, ANNU REV GENET
WICKNER RB, 1994, V264, P566, SCIENCE

13/9/6 (Item 6 from file: 34)

05382949 Genuine Article#: VV002 Number of References: 18

Title: IN-VITRO TRANSLATION AND TRANSLOCATION OF APOLIPOPROTEIN-B IN A CELL-FREE SYSTEM FROM HEPG2 CELLS

Author(s): MOHAMMADI A; THERIAULT A; ADELI K
Corporate Source: UNIV WINDSOR,DEPT CHEM & BIOCHEM/WINDSOR/ON N9B3P4/CANADA/
Journal: BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, 1996, V228, N3 (NOV 21), P852-858
ISSN: 0006-291X
Language: ENGLISH Document Type: ARTICLE
Geographic Location: CANADA
Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS
Abstract: An mRNA-dependent cell-free system has been developed from HepG2 cells by hydrolysis of endogenous mRNA with micrococcal nuclease. When supplied with RNA extracted from HepG2 cells, the system synthesized liver specific proteins such as albumin and apolipoprotein B-100. Significant amounts of microsomes were also detected in the lysate by measuring NADH-cytochrome c reductase activity and ultracentrifugation. Protease protection assays showed the capability of the HepG2 lysate to translocate newly-synthesized proteins such as apolipoprotein AI, albumin, and apoB into the microsomes as they were protected from digestion with exogenously added protease K, but not protected in the presence of protease K and Triton X-100. The system also proved to be very active toward translation of exogenous mRNAs as evidenced by efficient translation of brome mosaic virus RNA. The HepG2 translation-translocation system appears to provide a unique homologous system for studies on the biogenesis of liver specific proteins, particulary apoB(100). (C) 1996 Academic Press, Inc.
Identifiers--KeyWords Plus: PROTEIN TRANSLOCATION; ENDOPLASMIC-RETICULUM; MICROSOMAL-MEMBRANES; RNA ISOLATION; EFFICIENT; INVITRO; CLEAVAGE
Research Fronts: 94-3070 002 (RAT SKELETAL-MUSCLE; DEVELOPMENTAL REGULATION; YEAST SACCHAROMYCES-CEREVISIAE)
Cited References:

ADELI K, 1992, V70, P1301, BIOCHEM CELL BIOL
ADELI K, 1994, V269, P9166, J BIOL CHEM
BOSTROM K, 1984, V143, P101, EUR J BIOCHEM
BRADFORD MM, 1976, V72, P248, ANAL BIOCHEM
CHOMCZYNSKI P, 1987, V162, P156, ANAL BIOCHEM
DIXON JL, 1992, V117, P1161, J CELL BIOL
GIANNAKOUROS T, 1988, V20, P511, INT J BIOCHEM
HAN JH, 1987, V26, P1617, BIOCHEMISTRY-US
HANSEN W, 1986, V45, P397, CELL
LAEMMLI UK, 1970, V227, P680, NATURE
MATTHEWS G, 1991, V19, P6405, NUCLEIC ACIDS RES
OMURA T, 1970, V67, P249, J BIOCHEM-TOKYO
PELHAM HRB, 1976, V67, P247, EUR J BIOCHEM
SAMBROOK J, 1989, P712, MOL CLONING LAB MANU
SHIELDS D, 1978, V253, P3753, J BIOL CHEM
THERIAULT A, 1992, V186, P617, BIOCHEM BIOPH RES CO
TSE TPH, 1977, V252, P1272, J BIOL CHEM
WALTER P, 1983, V96, P84, METHOD ENZYMOL

13/9/7 (Item 7 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

05113032 Genuine Article#: VB017 Number of References: 38
Title: A HIGHLY EFFICIENT CELL-FREE PROTEIN-SYNTHESIS SYSTEM FROM ESCHERICHIA-COLI
Author(s): KIM DM; KIGAWA T; CHOI CY; YOKOYAMA S
Corporate Source: UNIV TOKYO,GRAD SCH SCI,DEPT BIOPHYS & BIOCHEM,BUNKYO KU,7-3-1 HONGO/TOKYO 113//JAPAN/; UNIV TOKYO,GRAD SCH SCI,DEPT BIOPHYS

& BIOCHEM,BUNKYO KU/TOKYO 113//JAPAN/; SEOUL NATL UNIV,COLL ENGN,INTERDISCIPLINARY PROGRAM BIOCHEM ENGN & TECHNOL/SEOUL//SOUTH KOREA/; RIKEN,CELLULAR SIGNALING LAB/WAKO/SAITAMA 35101/JAPAN/; SEOUL NATL UNIV,COLL ENGN,DEPT CHEM TECHNOL/SEOUL//SOUTH KOREA/
Journal: EUROPEAN JOURNAL OF BIOCHEMISTRY, 1996, V239, N3 (AUG 1), P881-886
ISSN: 0014-2956
Language: ENGLISH Document Type: ARTICLE
Geographic Location: JAPAN; SOUTH KOREA
Subfile: SciSearch, CC LIFE--Current Contents, Life Sciences
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY
Abstract: We modified a cell-free coupled transcription/ translation system from Escherichia coli with the T7 phage RNA polymerase, and achieved a productivity as high as 0.4 mg protein/ml reaction mixture. First, we found that the optimal concentrations of phosphoenolpyruvate and poly(ethylene glycol) are interdependent; higher concentrations of the former should be used at higher concentrations of the latter. Second, the use of a condensed 30 000Xg cell extract, in place of the conventional one, significantly increased the initial rate of protein synthesis. This phenomenon was demonstrated to be due to a reason other than elimination of inhibitory molecule(s) from the extract. For this system with the condensed extract, the phosphoenolpyruvate and poly(ethylene glycol) concentrations were again co-optimized, resulting in production of chloramphenicol acetyltransferase at a productivity of 0.3 mg/ml. Finally, the productivity was further increased up to 0.4 mg/ml, by supplementation of the pool of amino acids. This improved cell-free protein synthesis system is superior in productivity to any other cell-free systems reported so far, including the continuous-flow cell-free system.
Descriptors--Author Keywords: IN VITRO PROTEIN SYNTHESIS ; CELL EXTRACT ; COUPLED TRANSCRIPTION/TRANSLATION ; T7 RNA POLYMERASE ; CHLORAMPHENICOL ACETYLTRANSFERASE
Identifiers--KeyWords Plus: FREE TRANSLATION SYSTEM; COUPLED TRANSCRIPTION-TRANSLATION; TRANSFER-RNA SYNTHETASE; MESSENGER-RNA; PREPARATIVE-SCALE; INVITRO SYNTHESIS; GENE-EXPRESSION; POLYPEPTIDE; POLYAMINES; PURIFICATION
Research Fronts: 94-7730 002 (CELL-FREE PROTEIN-SYNTHESIS SYSTEM; SITE-DIRECTED INCORPORATION IN-VIVO OF NONNATURAL AMINO-ACIDS; PEPTIDE COMBINATORIAL LIBRARIES)
94-3070 001 (RAT SKELETAL-MUSCLE; DEVELOPMENTAL REGULATION; YEAST SACCHAROMYCES-CEREVISIAE)
94-4595 001 (T7 RNA-POLYMERASE; INITIATION OF TRANSCRIPTION; EFFICIENT EXPRESSION)
94-7600 001 (GAP JUNCTION PROTEIN CONNEXIN45; INCLUSION-BODIES OF ESCHERICHIA-COLI; RECOMBINANT ENZYME; TEMPERATURE-SENSITIVE FOLDING MUTATIONS)
Cited References:
AMARA SG, 1980, V255, P2645, J BIOL CHEM
ATKINS JF, 1975, V250, P5688, J BIOL CHEM
BARANOV VI, 1989, V84, P463, GENE
BARANOV VI, 1993, V217, P123, METHOD ENZYMOL
BRANDSMA M, 1995, V233, P277, EUR J BIOCHEM
CHARLES IG, 1993, V191, P1481, BIOCHEM BIOPH RES CO
CHEN HZ, 1983, V101, P674, METHOD ENZYMOL
CHRUNYK BA, 1993, V268, P8053, J BIOL CHEM
CHUNG HH, 1993, V259, P806, SCIENCE
DAVANLOO P, 1984, V81, P2035, P NATL ACAD SCI USA
ENDO Y, 1992, V25, P221, J BIOTECHNOL
FEDOROV AN, 1992, V225, P927, J MOL BIOL
FUCHS E, 1976, V63, P15, EUR J BIOCHEM
GOFF SA, 1987, V262, P4508, J BIOL CHEM
GOODMAN RH, 1979, V91, P932, BIOCHEM BIOPH RES CO

HENRICH B, 1982, V185, P493, MOL GEN GENET
IGARASHI K, 1980, V93, P360, BIOCHEM BIOPH RES CO
JACOBS JW, 1979, V254, P600, J BIOL CHEM
KIGAWA T, 1991, V110, P166, J BIOCHEM-TOKYO
KIGAWA T, 1995, V6, P129, J BIOMOL NMR
KOHNO T, 1990, V265, P6931, J BIOL CHEM
KOLOSOV MI, 1992, V16, P125, BIOTECHNOL APPL BIOC
KONECKI D, 1975, V169, P192, ARCH BIOCHEM BIOPHYS
KUDLICKI W, 1992, V206, P389, ANAL BIOCHEM
LAEMMLI UK, 1970, V227, P680, NATURE
MA CH, 1993, V32, P7939, BIOCHEMISTRY-US
MARSTON FAO, 1986, V240, P1, BIOCHEM J
MATTINGLY JR, 1993, V268, P6320, J BIOL CHEM
MAURIZI MR, 1987, V262, P2696, J BIOL CHEM
NAKANO H, 1994, V58, P631, BIOSCI BIOTECH BIOCH
NEGRUTSKII BS, 1994, V91, P964, P NATL ACAD SCI USA
NOREN CJ, 1989, V244, P182, SCIENCE
PRATT JM, 1984, P179, TRANSCRIPTION TRANSL
RYABOVA L, 1994, V269, P1501, J BIOL CHEM
RYABOVA LA, 1989, V17, P4412, NUCLEIC ACIDS RES
SPIRIN AS, 1988, V242, P1162, SCIENCE
UZAWA T, 1993, V114, P478, J BIOCHEM-TOKYO
VOLYANIK EV, 1993, V214, P289, ANAL BIOCHEM

13/9/8 (Item 8 from file: 34)

04767177 Genuine Article#: UG016 Number of References: 20
Title: REGULATION OF THE TRANSLATION AND PROCESSING OF RAT DOPAMINE-BETA-HYDROXYLASE BY METAL-IONS IN A CELL-FREE SYSTEM
Author(s): FENG ZH, SABBAN EL
Corporate Source: NEW YORK MED COLL,DEPT BIOCHEM & MOLEC BIOL/VALHALLA//NY/10595; NEW YORK MED COLL,DEPT BIOCHEM & MOLEC BIOL/VALHALLA//NY/10595
Journal: BIOCHEMISTRY AND MOLECULAR BIOLOGY INTERNATIONAL, 1995, V36, N2 (JUN), P339-345
ISSN: 1039-9712
Language: ENGLISH Document Type: ARTICLE
Geographic Location: USA
Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY
Abstract: Metal ions play an important role in the metabolism of prokaryotic and eukaryotic cells. In this study we examine the effect of various metal ions on the translation, glycosylation and co-translational processing of dopamine beta-hydroxylase (DBH) in vitro. The translation of wild type DBH mRNA and constructs with site directed mutations near the putative signal cleavage site was carried out with the addition of different ions (Mg2+, Cu2+, Mn2+, Ni2+, Co2+, Zn2+, Pb2+, Fe2+, Fe3+, Ca2+) in a cell-free system in the present of microsomal membranes. Most of the metal ions inhibited translation at concentrations above 1.5 mM. The translation was more sensitive to Fe2+ than Fe3+. Ni2+ and Cu2+ preferentially inhibited formation of the glycosylated products. Only magnesium affected the ratio of the two different processed forms in a concentration dependent manner.
Descriptors--Author Keywords: DOPAMINE BETA-HYDROXYLASE ; TRANSLATION ; METAL IONS ; GLYCOSYLATION ; IRON ; MAGNESIUM ; RABBIT RETICULOCYTE LYSATE ; SIGNAL CLEAVAGE ; PROCESSING
Identifiers--KeyWords Plus: ADRENAL CHROMAFFIN GRANULES; INVITRO; FORMS; CDNA; RNA

Cited References:

BON S, 1991, V57, P1100, J NEUROCHEM
CHIOCCA SM, 1991, V4, P61, MOL CARCINOGEN
CRAIG D, 1992, V20, P4987, NUCLEIC ACIDS RES
FENG Z, 1994, V64, P25, J NEUROCHEM
FENG ZH, 1992, V267, P1808, J BIOL CHEM
HATTORI S, 1991, V267, P346, J BIOL CHEM
HOROWITZ SB, 1989, V86, P9652, P NATL ACAD SCI USA
KALOUSEK F, 1992, V11, P2803, EMBO J
KOZAK M, 1989, V9, P5073, MOL CELL BIOL
LAMOUROUX A, 1987, V6, P3931, EMBO J
MAHMOOD R, 1991, V106, P29, GENE
MATTHIAS S, 1991, V88, P9, P NATL ACAD SCI USA
MCMAHON A, 1990, V25, P395, J NEUROSCI RES
NARAYANAN CS, 1987, V262, P1756, J BIOL CHEM
RICKER RD, 1991, V19, P6573, NUCLEIC ACIDS RES
SAARMA U, 1992, V20, P3147, NUCLEIC ACIDS RES
SABBAN EL, 1983, V258, P7819, J BIOL CHEM
STEWART LC, 1988, V57, P551, ANN REV BIOCH
WINKLER H, 1986, V18, P261, NEUROSCIENCE
ZHOU PB, 1993, V4, P105, BIOFACTORS

13/9/9 (Item 9 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04515095 Genuine Article#: TJ268 Number of References: 25
Title: AN INVESTIGATION OF THE MEMBRANE TOPOLOGY OF THE IONOTROPIC GLUTAMATE-RECEPTOR SUBUNIT GLUR1 IN A CELL-FREE SYSTEM
Author(s): SEAL AJ; COLLINGRIDGE GL; HENLEY JM
Corporate Source: UNIV BRISTOL,SCH MED SCI,DEPT ANAT/BRISTOL BS8 1TD/AVON/ENGLAND/; UNIV BIRMINGHAM SCH MED,DEPT PHARMACOL/BIRMINGHAM B15 2TT/W MIDLANDS/ENGLAND/
Journal: BIOCHEMICAL JOURNAL, 1995, V312, DEC (DEC 1), P451-456
ISSN: 0264-6021
Language: ENGLISH Document Type: ARTICLE
Geographic Location: ENGLAND
Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY
Abstract: We have utilized cell-free translation in rabbit-reticulocyte lysate supplemented with canine pancreatic microsomal membranes to study the processing and membrane topology of the rat ionotropic glutamate receptor subunit GluR1. In vitro-synthesized RNA encoding GluR1 was translated to yield a primary translation product with an apparent molecular mass of 99 kDa. In the presence of microsomal membranes this protein was processed to give a band of 107 kDa. Treatment with peptide-N-glycosidase F showed that this increase in molecular mass was due to N-linked glycosylation. Incubation of the processed receptor with proteinase K revealed the presence of a 68 kDa protease-resistant band which decreased to 56 kDa following deglycosylation. A deletion mutant (GluR1M1) lacking the predicted transmembrane domains was fully translocated across the microsomal membrane and protected from the action of the protease. The mutant and wild-type receptor could be immunoprecipitated by anti-peptide antibodies directed against the C-terminus. Following translocation of the wild-type and mutant receptor across the microsomal membrane and treatment with proteinase K the antibody binding to GluR1 was abolished, but was retained for GluR1M1. These data allow identification of the orientation of the N- and C-termini of GluR1 within the microsome, results which are consistent with an extracellular N-terminal and intracellular C-terminal localization

following incorporation into the plasma membrane.
Identifiers--KeyWords Plus: PHOSPHORYLATION; INSERTION; FAMILY
Research Fronts: 93-0056 003 (METABOTROPIC GLUTAMATE RECEPTORS; EXPRESSION OF THE GENE ENCODING CHICK KAINATE BINDING-PROTEIN; RAT TRIGEMINAL GANGLION)
Cited References:
BENNETT JA, 1995, V14, P373, NEURON
BETTLER B, 1995, V34, P123, NEUROPHARMACOLOGY
COLLINGRIDGE GL, 1989, V40, P143, PHARMACOL REV
GASIC GP, 1992, V54, P507, ANN REV PHYSL
HOLLMANN M, 1989, V342, P643, NATURE
HOLLMANN M, 1994, V13, P1331, NEURON
KEINANEN K, 1990, V249, P556, SCIENCE
KORNFELD R, 1985, V54, P631, ANNU REV BIOCHEM
MCILHINNEY RAJ, 1995, V12, P115, BRAIN RES ASS ABSTR
MOLNAR E, 1994, V63, P683, J NEUROCHEM
MOLNAR E, 1993, V53, P307, NEUROSCIENCE
MORIMOTO T, 1983, V96, P121, METHOD ENZYMOL
PETRALIA RS, 1992, V318, P329, J COMP NEUROL
RAYMOND LA, 1993, V361, P637, NATURE
ROCHE KW, 1994, V269, P1679, J BIOL CHEM
SEAL AJ, 1994, V33, P1065, NEUROPHARMACOLOGY
SOMMER B, 1990, V249, P1580, SCIENCE
STERNBACH Y, 1994, V13, P1345, NEURON
TARENTINO AL, 1984, V24, P4665, BIOCHEMISTRY-US
TAVERNA FA, 1994, V269, P4159, J BIOL CHEM
TINGLEY WG, 1993, V364, P70, NATURE
WALTER P, 1983, V96, P84, METHOD ENZYMOL
WESSELS HP, 1988, V55, P61, CELL
WO ZG, 1994, V91, P7154, P NATL ACAD SCI USA
WO ZG, 1995, V18, P161, TRENDS NEUROSCI

13/9/10 (Item 10 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

01425682 Genuine Article#: GX995 Number of References: 56
Title: CELL-FREE SYNTHESIS OF RAT AND HUMAN CATECHOL O-METHYLTRANSFERASE - INSERTION OF THE MEMBRANE-BOUND FORM INTO MICROSOMAL-MEMBRANES INVITRO
Author(s): ULMANEN I; LUNDSTROM K
Corporate Source: ORION CORP,MOLEC GENET LAB,VALIMOTIE 7/SF-00380HELSINKI//FINLAND/
Journal: EUROPEAN JOURNAL OF BIOCHEMISTRY, 1991, V202, N3 (DEC 18), P 1013-1020
Language: ENGLISH Document Type: ARTICLE
Geographic Location: FINLAND
Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY
Abstract: The protein-coding capacities of rat and human catechol O-methyltransferase (COMT) DNA clones were analysed by in vitro transcription and translation using bacteriophage RNA polymerase and rabbit reticulocyte lysate. Two types of clones corresponding to the structures of human placental cDNA clones were used. The shorter clones, containing the 663-residue open reading frame for the soluble COMT (S-COMT), produced 24-kDa (rat) and 26-kDa (human) polypeptides. Translation of the longer clones, containing 43 (rat) or 50 (human) amino acid amino-terminal extensions to the S-COMT polypeptides, yielded 28-kDa (rat) and 30-kDa (human) putative membrane-bound COMT (MB-COMT) polypeptides as the main products. These clones also yielded low amounts of the S-COMT polypeptides. Labelling time or ionic conditions during

translation did not eliminate the shorter products, suggesting translation initiation from the second S-COMT AUG codon. In accordance with this postulation, the relative amount of S-COMT could be affected by changing the translation initiation contexts preceding the first AUG codon. The 28-kDa and 30-kDa products, but not the 24-kDa and 26-kDa products, associated with microsomal membranes cotranslationally, indicating that the amino-terminal extensions were functional signal sequences. However, the presence of membranes did not affect the mobilities of the proteins in SDS/polyacrylamide gels. The MB-COMT polypeptides could not be released from the microsomes by treatments with phospholipase C or alkali and were not protected by the microsomes against proteinase K digestion. These results indicate that MB-COMT synthesized in vitro is an integral membrane protein having an amino-terminal signal-anchor sequence.

Identifiers--KeyWords Plus: POSITIVELY CHARGED RESIDUES; ENDOPLASMIC-RETICULUM; HUMAN-BRAIN; PROTEIN TRANSLOCATION; METHYL-TRANSFERASE; MONOAMINE-OXIDASE; EUKARYOTIC CELL; MESSENGER-RNAS; HUMAN-PLACENTA; NH2 TERMINUS

Research Fronts: 90-0211 001 (PRE-MESSENGER-RNA SPLICING; YEAST U6 SNRNP; MAMMALIAN PROTEIN; CONSERVED DOMAINS)

90-2716 001 (INSULIN ACTION; MEMBRANE ANCHOR OF TRYPANOSOMA-BRUCEI VARIANT SURFACE GLYCOPROTEINS; PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE-C; GLYCOLIPID PRECURSORS)

90-7151 001 (INITIATION OF ENCEPHALOMYOCARDITIS VIRUS-RNA TRANSLATION; 5'-UNTRANSLATED REGION; LEADER SEQUENCE; GENOME ORGANIZATION; SCANNING MECHANISM)

90-7783 001 (POLYMERASE CHAIN-REACTION; DNA AMPLIFICATION; POLYMORPHIC NUCLEOTIDE SUBSTITUTIONS IN BETA-GLOBIN GENES)

Cited References:

ANDERSON DJ, 1983, V80, P7249, P NATL ACAD SCI USA
AXELROD J, 1958, V233, P702, J BIOL CHEM
AXELROD J, 1959, V5, P68, J NEUROCHEM
BALL P, 1972, V34, P736, J CLIN ENDOCR METAB
BARNEA ER, 1988, V5, P121, AM J PERINAT
BLOBEL G, 1980, V77, P1496, P NATL ACAD SCI USA
BORCHARDT RT, 1978, V522, P49, BIOCHIM BIOPHYS ACTA
BORCHARDT RT, 1974, V14, P1089, LIFE SCI
BREITBART RE, 1987, V56, P467, ANNU REV BIOCHEM
CASTREN O, 1974, V53, P41, ACTA OBSTET GYNEC SC
CREVELING C, 1978, P117, FRONTIERS CATECHOLAM
CROSS GAM, 1987, V48, P179, CELL
DALBEY RE, 1990, V15, P253, TRENDS BIOCHEM SCI
DASSO MC, 1989, V17, P3129, NUCLEIC ACIDS RES
FUJIKI Y, 1982, V93, P97, J CELL BIOL
GAROFF H, 1985, V1, P403, ANNU REV CELL BIOL
GILMORE R, 1985, V42, P497, CELL
GROSSMAN MH, 1985, V44, P421, J NEUROCHEM
GULDBERG HC, 1975, V27, P135, PHARMACOL REV
HAEUPTLE MT, 1989, V108, P1227, J CELL BIOL
HANSEN W, 1986, V45, P397, CELL
HARTMANN E, 1989, V86, P5786, P NATL ACAD SCI USA
HULL JD, 1988, V106, P1489, J CELL BIOL
JARROT B, 1971, V28, P17, J NEUROCHEM
JEFFERY DR, 1987, V26, P2955, BIOCHEMISTRY-US
JEFFERY DR, 1984, V42, P826, J NEUROCHEM
JENNINGS ML, 1989, V58, P999, ANNU REV BIOCHEM
KAAKKOLA S, 1987, V69, P221, J NEURAL TRANSM
KAPLAN GP, 1979, V167, P241, BRAIN RES
KAPLAN GP, 1981, V229, P323, BRAIN RES
KOPIN I, 1986, V37, P333, PHARMACOL REV
KOZAK M, 1986, V44, P283, CELL
KOZAK M, 1986, V47, P481, CELL

KOZAK M, 1989, V108, P229, J CELL BIOL
KOZAK M, 1989, V9, P5073, MOL CELL BIOL
KOZAK M, 1987, V15, P8125, NUCLEIC ACIDS RES
LEFF SE, 1986, V55, P1091, ANNU REV BIOCHEM
LOW MG, 1986, V11, P212, TRENDS BIOCHEM SCI
LUNDSTROM K, 1991, V10, P181, DNA CELL BIOL
MULLIS KB, 1987, V155, P335, METHOD ENZYMOL
NANDAKUMARAN M, 1983, V4, P57, PLACENTA
RIVETT AJ, 1982, V21, P1740, BIOCHEMISTRY-US
RIVETT AJ, 1982, V39, P1009, J NEUROCHEM
RIVETT AJ, 1983, V40, P215, J NEUROCHEM
RIVETT AJ, 1983, V40, P1494, J NEUROCHEM
ROISE D, 1988, V263, P4509, J BIOL CHEM
ROTH JA, 1980, V29, P3119, BIOCHEM PHARMACOL
SAKAGUCHI M, 1987, V6, P2425, EMBO J
SALMINEN M, 1990, V93, P241, GENE
SINGER SJ, 1990, V6, P247, ANNU REV CELL BIOL
SZCZESNASKORUPA E, 1988, V85, P738, P NATL ACAD SCI USA
TILGMANN C, 1991, V174, P995, BIOCHEM BIOPH RES CO
TILGMANN C, 1990, V264, P95, FEBS LETT
VONHEIJNE G, 1986, V5, P3021, EMBO J
VONHEIJNE G, 1988, V174, P671, EUR J BIOCHEM
WALTER P, 1983, V96, P84, METHOD ENZYMOL
? e au=SPIRIN alexander

Ref	Items	Index-term
E1	4	AU=SPIRIN AI
E2	1	AU=SPIRIN AL
E3	1	*AU=SPIRIN ALEXANDER
E4	33	AU=SPIRIN ALEXANDER S
E5	1	AU=SPIRIN ALEXANDER SERGEYEVICH
E6	1	AU=SPIRIN ALEXANDR SERGEEVICH
E7	1	AU=SPIRIN AM
E8	53	AU=SPIRIN AS
E9	3	AU=SPIRIN AV
E10	5	AU=SPIRIN B A
E11	12	AU=SPIRIN B G
E12	1	AU=SPIRIN D

Enter P or PAGE for more
? s e3 or e4 or e5 or e6
1 AU=SPIRIN ALEXANDER
33 AU=SPIRIN ALEXANDER S
1 AU=SPIRIN ALEXANDER SERGEYEVICH
1 AU=SPIRIN ALEXANDR SERGEEVICH
S14 36 AU='SPIRIN ALEXANDER' OR AU='SPIRIN ALEXANDER S' OR AU='SPIRIN ALEXANDER SERGEYEVICH' OR AU='SPIRIN ALEXANDR SERGEEVICH'
? e au=SHIROKOV VLADIMIR

Ref	Items	Index-term
E1	11	AU=SHIROKOV VA
E2	1	AU=SHIROKOV VB
E3	1	*AU=SHIROKOV VLADIMIR
E4	2	AU=SHIROKOV VLADIMIR A
E5	1	AU=SHIROKOV VLADIMIR ANATOLIEVICH
E6	5	AU=SHIROKOV VN
E7	11	AU=SHIROKOV VV
E8	4	AU=SHIROKOV Y G
E9	24	AU=SHIROKOV YG
E10	25	AU=SHIROKOV YU G
E11	2	AU=SHIROKOV YV

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E12      3  AU=SHIROKOVA A G

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? s e3 or e4 or e5
          1  AU=SHIROKOV VLADIMIR
          2  AU=SHIROKOV VLADIMIR A
          1  AU=SHIROKOV VLADIMIR ANATOLIEVICH
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Ref   Items  Index-term
E1        4  AU=SIMONENKO P N
E2        2  AU=SIMONENKO P.N.
E3        0 *AU=SIMONENKO PETER
E4        1  AU=SIMONENKO PETER N
E5        1  AU=SIMONENKO PETER NIKOLAYEVICH
E6        2  AU=SIMONENKO PN
E7        1  AU=SIMONENKO SV
E8        1  AU=SIMONENKO T S
E9        1  AU=SIMONENKO V
E10      11  AU=SIMONENKO V B
E11       1  AU=SIMONENKO V D
E12      23  AU=SIMONENKO V K

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? s e4 or e1 or e2 or e5 or e6
          1  AU=SIMONENKO PETER N
          4  AU=SIMONENKO P N
          2  AU=SIMONENKO P.N.
          1  AU=SIMONENKO PETER NIKOLAYEVICH
          2  AU=SIMONENKO PN
   S16   10  AU='SIMONENKO PETER N' OR AU='SIMONENKO P N' OR
            AU='SIMONENKO P.N.' OR AU='SIMONENKO PETER NIKOLAYEVICH'
            OR AU='SIMONENKO PN'
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Ref   Items  Index-term
E1        2  AU=BIRYUKOV SA
E2        1  AU=BIRYUKOV SD
E3        0 *AU=BIRYUKOV SERGEY
E4        1  AU=BIRYUKOV SERGEY VLADIMIROVICH
E5        1  AU=BIRYUKOV SG
E6       25  AU=BIRYUKOV SV
E7       15  AU=BIRYUKOV V
E8        9  AU=BIRYUKOV V A
E9        5  AU=BIRYUKOV V B
E10       2  AU=BIRYUKOV V D
E11       1  AU=BIRYUKOV V H
E12       2  AU=BIRYUKOV V I

       Enter P or PAGE for more
? s e4 or ee6
          1  AU=BIRYUKOV SERGEY VLADIMIROVICH
          7  EE6
   S17    8  AU='BIRYUKOV SERGEY VLADIMIROVICH' OR EE6
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Set    Items  Description
S1     16155  LYSATE OR "CELL EXTRACT"
S2    526902  TRANSCRIPTION OR TRANSLATION
S3       102  "REACTION MIXTURE"
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S4 393150 FEED OR FEEDS OR FEEDING
S5 1920517 MG OR MAGNESIUM OR K OR POTASSIUM OR MTP
S6 314180 ATP OR GTP OR UTP OR CTP
S7 164393 PORE? OR POROUS
S8 1520 CELL-FREE OR "CELL FREE"
S9 0 S1 AND S2 AND S4 AND S5 AND S6 AND S7 AND S8
S10 54 S1 AND S2 AND S8
S11 0 S10 AND S3
S12 0 S10 AND S4
S13 10 S10 AND S5
S14 36 AU='SPIRIN ALEXANDER' OR AU='SPIRIN ALEXANDER S' OR AU='SPIRIN ALEXANDER SERGEYEVICH' OR AU='SPIRIN ALEXANDR SERGEEVICH'
S15 4 AU='SHIROKOV VLADIMIR' OR AU='SHIROKOV VLADIMIR A' OR AU='SHIROKOV VLADIMIR ANATOLIEVICH'
S16 10 AU='SIMONENKO PETER N' OR AU='SIMONENKO P N' OR AU='SIMONENKO P.N.' OR AU='SIMONENKO PETER NIKOLAYEVICH' OR AU='SIMONENKO PN'
S17 8 AU='BIRYUKOV SERGEY VLADIMIROVICH' OR EE6
? s l4 or e15 or e16 or e17
991877 l4
1 AU=BIRYUKOV V T
75 AU=BIRYUKOV V V
2 AU=BIRYUKOV VA
S18 991953 l4 OR AU='BIRYUKOV V T' OR AU='BIRYUKOV V V' OR AU='BIRYUKOV VA'
? s e18 and (s1 or s2 or s3 or s4 or s5 or s6 or s7 or s8)
2 AU=BIRYUKOV VB
16155 S1
526902 S2
102 S3
393150 S4
1920517 S5
314180 S6
164393 S7
1520 S8
S19 0 AU='BIRYUKOV VB' AND (S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8)
? ds

Set Items Description
S1 16155 LYSATE OR "CELL EXTRACT"
S2 526902 TRANSCRIPTION OR TRANSLATION
S3 102 "REACTION MIXTURE"
S4 393150 FEED OR FEEDS OR FEEDING
S5 1920517 MG OR MAGNESIUM OR K OR POTASSIUM OR MTP
S6 314180 ATP OR GTP OR UTP OR CTP
S7 164393 PORE? OR POROUS
S8 1520 CELL-FREE OR "CELL FREE"
S9 0 S1 AND S2 AND S4 AND S5 AND S6 AND S7 AND S8
S10 54 S1 AND S2 AND S8
S11 0 S10 AND S3
S12 0 S10 AND S4
S13 10 S10 AND S5
S14 36 AU='SPIRIN ALEXANDER' OR AU='SPIRIN ALEXANDER S' OR AU='SPIRIN ALEXANDER SERGEYEVICH' OR AU='SPIRIN ALEXANDR SERGEEVICH'
S15 4 AU='SHIROKOV VLADIMIR' OR AU='SHIROKOV VLADIMIR A' OR AU='SHIROKOV VLADIMIR ANATOLIEVICH'
S16 10 AU='SIMONENKO PETER N' OR AU='SIMONENKO P N' OR AU='SIMONENKO P.N.' OR AU='SIMONENKO PETER NIKOLAYEVICH' OR AU='SIMONENKO PN'
S17 8 AU='BIRYUKOV SERGEY VLADIMIROVICH' OR EE6
S18 991953 l4 OR AU='BIRYUKOV V T' OR AU='BIRYUKOV V V' OR AU='BIRYUK-

OV VA'
S19 0 AU='BIRYUKOV VB' AND (S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR -
S7 OR S8)
? s s14 or s15 or s16 or s17
36 S14
4 S15
10 S16
8 S17
S20 53 S14 OR S15 OR S16 OR S17
? s s20 and (S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8)
53 S20
16155 S1
526902 S2
102 S3
393150 S4
1920517 S5
314180 S6
164393 S7
1520 S8
S21 36 S20 AND (S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8)
? s s21 and py<=2000
Processing
36 S21
23907858 PY<=2000
S22 27 S21 AND PY<=2000
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22/6/1 (Item 1 from file: 5)
12691701 BIOSIS NO.: 200000445203
Co-translational folding of an eukaryotic multidomain protein in a
prokaryotic translation system.
2000

22/6/2 (Item 2 from file: 5)
12492997 BIOSIS NO.: 200000246499
Cell-free synthesis and affinity isolation of proteins on a nanomole scale.
2000

22/6/3 (Item 3 from file: 5)
12290452 BIOSIS NO.: 200000048319
Independent in vitro assembly of all three major morphological parts of the
30S ribosomal subunit of Thermus thermophilus.
1999

22/6/4 (Item 4 from file: 5)
12272643 BIOSIS NO.: 200000026145
A protein residing at the subunit interface of the bacterial ribosome.
1999

22/6/5 (Item 5 from file: 5)
11675363 BIOSIS NO.: 199800457094
Continuous-flow cell-free translation, transcription-
translation, and replication-translation systems.
BOOK TITLE: Methods in Molecular Biology; Protein synthesis: Methods and
protocols
1998

22/6/6 (Item 6 from file: 5)
11126324 BIOSIS NO.: 199799747469
Direct expression of PCR products in a cell-free transcription/
translation system: Synthesis of antibacterial peptide cecropin.
1997

22/6/7 (Item 7 from file: 5)
10891699 BIOSIS NO.: 199799512844
Cotranslational folding of globin.
1997

22/6/8 (Item 8 from file: 5)
10744150 BIOSIS NO.: 199799365295
Functional antibody production using cell-free translation: Effects
of protein disulfide isomerase and chaperones.
1997

22/6/9 (Item 9 from file: 5)
10738086 BIOSIS NO.: 199799359231
Synthesis and maturation of green fluorescent protein in a cell-free
translation system.
1996

22/6/10 (Item 10 from file: 5)
10707861 BIOSIS NO.: 199799329006
Formation of bacteriophage MS2 infectious units in a cell-free
translation system.
1996

22/6/11 (Item 11 from file: 5)
10331065 BIOSIS NO.: 199698785983
Cotranslational folding of proteins.
1995

22/6/12 (Item 12 from file: 5)
09778791 BIOSIS NO.: 199598233709
Acetyl phosphatase as an energy source for bacterial cell-free
translation systems.
1995

22/6/13 (Item 13 from file: 5)
09730809 BIOSIS NO.: 199598185727
The Major Protein of Messenger Ribonucleoprotein Particles in Somatic Cells
Is a Member of the Y-box Binding Transcription Factor Family.
1995

22/6/14 (Item 14 from file: 5)
09715989 BIOSIS NO.: 199598170907
Viral Q-beta RNA as a high expression vector for mRNA translation in
a cell-free system.
1995

22/6/15 (Item 15 from file: 5)

09593393 BIOSIS NO.: 199598048311
Enhancing effect of the 3'-untranslated region of tobacco mosaic virus RNA on protein synthesis in vitro.
1994

22/6/16 (Item 16 from file: 5)
09439193 BIOSIS NO.: 199497447563
Folding of firefly luciferase during translation in a cell-free system.
1994

22/6/17 (Item 17 from file: 5)
09421139 BIOSIS NO.: 199497429509
Gene expression in cell-free system on preparative scale.
BOOK TITLE: Methods in Enzymology; Recombinant DNA, Part H
1993

22/6/18 (Item 18 from file: 5)
09272398 BIOSIS NO.: 199497280768
Storage of messenger RNA in eukaryotes: Envelopment with protein, translational barrier at 5' side, or conformational masking by 3' side?
1994

22/6/19 (Item 19 from file: 5)
09236025 BIOSIS NO.: 199497244395
Undecagold cluster modified tRNA-Phe from Escherichia coli and its activity in the protein elongation cycle.
1994

22/6/20 (Item 20 from file: 5)
09214616 BIOSIS NO.: 199497222986
Expression and stability of recombinant RQ-mRNAs in cell-free translation systems.
1994

22/6/21 (Item 21 from file: 5)
09125233 BIOSIS NO.: 199497133603
Coupled replication-translation of amplifiable messenger RNA: A cell-free protein synthesis system that mimics viral infection.
1994

22/6/22 (Item 22 from file: 5)
09021458 BIOSIS NO.: 199497029828
Synergism in replication and translation of messenger RNA in a cell-free system.
1993

22/6/23 (Item 23 from file: 5)
08935354 BIOSIS NO.: 199396086855
The 3'-terminal untranslated region of alfalfa mosaic virus RNA 4 facilitates the RNA entry into translation in a cell-free system.
1993

22/6/24 (Item 1 from file: 34)
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

08406128 Genuine Article#: 281WE Number of References: 37
Title: Cell-free synthesis and affinity isolation of proteins on a nanomole scale (ABSTRACT AVAILABLE)
Publication date: 20000200
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOCHEMICAL RESEARCH METHODS
Identifiers--KeyWord Plus(R): FREE TRANSLATION SYSTEMS; Q-BETA-REPLICASE; MESSENGER-RNA; SECONDARY STRUCTURE; ESCHERICHIA-COLI; STREP-TAG; DIHYDROFOLATE-REDUCTASE; EXPRESSION; PURIFICATION; STREPTAVIDIN

22/6/25 (Item 2 from file: 34)
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

03795616 Genuine Article#: QG471 Number of References: 33
Title: THE MAJOR PROTEIN OF MESSENGER-RIBONUCLEOPROTEIN PARTICLES IN SOMATIC-CELLS IS A MEMBER OF THE Y-BOX BINDING TRANSCRIPTION FACTOR FAMILY (Abstract Available)
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY
Identifiers--KeyWords Plus: XENOPUS-LAEVIS OOCYTES; RABBIT RETICULOCYTES; RNA-BINDING; POLY(A)-BINDING PROTEIN; CYTOPLASMIC MRNP; TRANSLATION; PURIFICATION; INITIATION; CLONING; INVITRO
Research Fronts: 93-1356 001 (GRANULOCYTE-MACROPHAGE COLONY-STIMULATING FACTOR MESSENGER-RNA; POSTTRANSCRIPTIONAL REGULATION; 3' UNTRANSLATED REGION)
93-3088 001 (RAT MUSCLE; PROTEIN PHOSPHATASE-1; MAJOR GLUTATHIONE TRANSFERASE)

22/6/26 (Item 1 from file: 71)
01362877 2000037664
Cell-free synthesis and affinity isolation of proteins on a nanomole scale

22/6/27 (Item 2 from file: 71)
00244569 95041846
The major protein of messenger ribonucleoprotein particles in somatic cells is a member of the Y-box binding transcription factor family
PUBLICATION DATE: 19950000
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Set Items Description
S1 16155 LYSATE OR "CELL EXTRACT"
S2 526902 TRANSCRIPTION OR TRANSLATION
S3 102 "REACTION MIXTURE"
S4 393150 FEED OR FEEDS OR FEEDING
S5 1920517 MG OR MAGNESIUM OR K OR POTASSIUM OR MTP
S6 314180 ATP OR GTP OR UTP OR CTP
S7 164393 PORE? OR POROUS
S8 1520 CELL-FREE OR "CELL FREE"
S9 0 S1 AND S2 AND S4 AND S5 AND S6 AND S7 AND S8
S10 54 S1 AND S2 AND S8
S11 0 S10 AND S3
S12 0 S10 AND S4
S13 10 S10 AND S5
S14 36 AU='SPIRIN ALEXANDER' OR AU='SPIRIN ALEXANDER S' OR AU='SPIRIN ALEXANDER SERGEYEVICH' OR AU='SPIRIN ALEXANDR SERGEEVICH'
S15 4 AU='SHIROKOV VLADIMIR' OR AU='SHIROKOV VLADIMIR A' OR AU='-

SHIROKOV VLADIMIR ANATOLIEVICH'

S16 10 AU='SIMONENKO PETER N' OR AU='SIMONENKO P N' OR AU='SIMONENKO P N.' OR AU='SIMONENKO PETER NIKOLAYEVICH' OR AU='SIMONENKO PN'

S17 8 AU='BIRYUKOV SERGEY VLADIMIROVICH' OR EE6

S18 991953 14 OR AU='BIRYUKOV V T' OR AU='BIRYUKOV V V' OR AU='BIRYUKOV VA'

S19 0 AU='BIRYUKOV VB' AND (S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR - S7 OR S8)

S20 53 S14 OR S15 OR S16 OR S17

S21 36 S20 AND (S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8)

S22 27 S21 AND PY<=2000